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Rare Animals as Cryptids and Supernaturals: The Case of Dugongs on Flores Island

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ABSTRACT

Expanding on recent anthropological writing on cryptozoology, this paper demonstrates how animals perceived as both rare and cosmologically anomalous can be usefully compared with cryptids, "mystery" animals not currently recognized by scientific zoology. The case is advanced with reference to the dugong (*Dugong dugon*) as experienced by the Lio people of the eastern Indonesian island of Flores, who credit these large sea mammals with supernatural properties even while otherwise recognizing them as physical or natural creatures. Lio describe the seldom seen animals as half human and half fish and, as detailed in a widely known myth, descendants of a human female. Their human quality finds expression in dugongs' retaining or regaining human form, particularly in dreams, and in numerous magical uses made of dugong body parts, most of which are explicitly rationalized with reference to the animal's human origin. But while the spiritual or supernatural character of dugongs reflects their derivation from a human, Lio otherwise treat the animals as a kind of "fish," and most people will consume dugong flesh – a duality that finds further expression in the variety of names Lio give to dugongs. Combined with their unusual morphology and behavior (displaying numerous features of land mammals while living exclusively in the sea), it is the rarity of dugongs – understood as a quality of remaining "hidden" from all humans except those who are privileged to encounter one – that explains both their supernatural quality and their close similarity to cryptids. Accordingly, the paper aims to advance an anthropological study of rarity, conceived as a quality of not being regularly accessible to the perception of ordinary humans, as a factor connecting certain empirical animals both to spiritual beings and to the usual subjects of cryptozoology.

KEYWORDS

Cryptozoology; dugongs; Flores (Indonesia); human–animal interaction; rare animals; supernatural creatures

Recent anthropological approaches to cryptozoology (e.g., Hurn, 2017) have highlighted similarities between "cryptids" as usually defined (that is, as animals unrecognized or unconfirmed by scientific zoology) and both rare or otherwise unusual animals and supernatural creatures. Inverting the approach of conventional cryptozoologists one contributor to the volume edited by Hurn (Turner, 2017, pp. 15–16) has more specifically suggested that "cryptid" can continue to apply to rare or otherwise unusual animals

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that, although documented scientifically, remain enigmatic, perhaps because of "unexpected and emotionally disturbing" behavior. Referring to Western conceptions of such animals, the examples Turner mentions are Komodo "dragons" (the large monitor *Varanus komodoensis*, which also occurs on Flores Island) and rediscovered coelacanths, the fish sometimes dubbed "living fossils."

In what follows I discuss conceptions of dugongs (*Dugong dugon*, order Sirenia) among the people of Flores in eastern Indonesia as instances of how animals that are rare – as these large sea mammals certainly are for Flores Islanders – are perceived as partly supernatural or spiritual creatures and as possessing a "cryptic" quality that renders them closely comparable to cryptids in the more conventional sense (e.g., sea or lake monsters or mystery hominoids). In a broader vein, my purpose is to identify a class of rare though existent animals and to investigate ways in which humans might typically perceive, represent, and in other respects relate to these. It can hardly be claimed that all rare animals will regularly be conceived as spiritual beings (provisionally defined as beings able to contravene locally recognized regularities of folk physics – by vanishing or changing form at will, for example). On the other hand, some certainly are, so the aim is to identify those conditions in which supernatural conceptions of rare animals are likely to develop.

"Supernatural" creatures, which by definition are essentially immaterial and zoologically non-existent – or exist only in human imagination or by virtue of beliefs – and animals that are "natural" and existent although rarely encountered, would appear to comprise quite different ontological and epistemological categories. Yet from the perspective of a non-scientific cosmology, the two can be remarkably similar or even indistinguishable. As the ethnographic record readily reveals, spiritual beings are entities that are rarely seen or otherwise perceived, if indeed they are considered possibly visible at all, and are often perceptible only to particular individuals. Animals that are rarely seen suggest much the same character, and for that reason can be regarded as possessing supernatural qualities and special powers not possessed by other animals. By the same token, the minority of people who do encounter them can be deemed to possess a special quality or to acquire special powers by virtue of the encounter. In other words, both spiritual beings and rare animals can be conceived as normally "hidden" and thus as "cryptic" in the most basic sense.

To acquire properties of mystery or uncanniness normally associated with supernaturals, however, it is not sufficient for an empirical creature to be rare, even extremely rare. Specifically, rare animals must further possess either unusual physical (morphological, behavioral) features or must appear in ecological contexts or situations where they would not expect to be found. Examples would include animals which, by virtue of their form, are apparently "marine" creatures but occur on dry land and well away from the sea. Accordingly, within a single ethno-linguistic region, whether a supernatural character is attributed to rare or unusual animals can vary among species. By these criteria, very common animals, too, can be conceived as incidental manifestations of spiritual beings, based on distinctive or unusual size, shape, or appearance, where they occur, or what they are doing. Reporting on the Asabano of New Guinea, Lohmann (2003, pp. 202–203) thus describes how people encountering ordinary animals can interpret these as manifestations of spiritual beings (specifically witches) if the creatures behave in a peculiar manner. In the ethnographic setting of the present paper, snakes and eels

provide the best examples of contextual interpretations of common creatures manifesting as spirits, Such interpretations emerge especially when a Flores Islander encounters an extremely large or unusually marked or colored specimen, or in the case of snakes, two specimens mating. At the same time, among decidedly rare and otherwise unusual animals, supernatural attributes are more likely to be ascribed categorically and to apply to any member of the species.

Local Knowledge of and Ideas about Dugongs

All these points find support in Florenese ideas concerning dugongs (*Dugong dugon*, order Sirenia). Partly reflecting very occasional local sightings, Flores Islanders characterize dugongs as creatures half human and half fish. The depiction immediately recalls mermaids (or merfolk) and indeed, dugongs and manatees (members of the Trichechidae, the other kind of surviving Sirenians) have long been accepted as a likely source of the European image (Andaya, 2019, pp. 11–12; Beekman, 1981, pp. 242–245; Ritvo, 1997, p. 181). By virtue of their locally perceived rarity and a representation of these sea mammals as creatures that rarely allow themselves to be seen and as therefore possessing a mostly "hidden" character, in the context of Florenese folk zoology and cosmology dugongs can be understood as cryptids in a way closely approximating more conventional cryptids (sea monsters, for example) in Western cryptozoology. In fact, dugongs would likely have been treated as cryptids by Westerners were it not for the fact that the animals were documented by Western naturalists in the late eighteenth century – a point I expand on later.

Apart from lending the animals a cryptic character, observation of dugong morphology and behavior, as well as a mythological interpretation of these, is significantly connected with spiritual qualities Flores people attribute to the animals and with magical properties they attribute to dugong body parts. Recalling the putative remains of Catholic saints, these material remains I choose to call "relics." As Florenese ideas about dugongs vary from place to place, I focus on the Lio of east central Flores, and more specifically the people of southeastern Lio, fishermen and cultivators who reside in villages on or near the south coast, bounding on the Savu Sea. For a century at least dugong numbers have been declining worldwide, and the species is now designated as "vulnerable" in the IUCN Red List. Accordingly, most Lio have never seen a dugong, and while generally characterized as uncommon, people describe the creatures as noticeably rarer at present than in former times.

Of the minority of coastal dwellers who have seen dugongs, most have seen only carcasses washed ashore, although fishermen report occasional sightings some way out to sea. Formerly, dugongs could be encountered at night close to the shore, mostly in the months of June and July, feeding on seagrass, the animal's principal food source. Depletion of seagrass beds, caused by increasing human activity near the shore and pollution from motorized vessels (Marsh, 2002, p. 86), is likely one factor in the present scarcity of dugongs in Flores waters. As the animals are unable to remain submerged for more than 6 or 7 min (Marsh, 2002, p. 80), another cause of dugong decline is entanglement in fishermen's nets or becoming caught in fish traps or weirs and subsequently drowning. And yet another cause is the illegal yet continuing practice of "blast fishing," especially by fishermen from the coastal town of Ende employing explosives produced from chemical fertilizers, which in addition to marine fish, accidentally kill dugongs.

As well as carcasses occasionally washing up on beaches, the dugong's habit of feeding on seagrass in shallow waters close to the shoreline partly accounts for the greater familiarity of local people with the mammalian physical features of dugongs. In both respects, dugongs contrast with other sea mammals, most notably whales. Dugongs are also nonaggressive, slow-moving, and easily approached. For the same reasons, Lio seem familiar with the mammalian parental behavior only of dugongs, and especially their suckling of young. Whales are occasionally seen alive, but then far out at sea, and whereas people described one or two incidents where, in years past, whale carcasses had washed up on shore, these incidents have been less frequent than encounters with dead dugongs. No Florenese hunt whales, nor do they actively or regularly hunt dugongs. In fact, deliberately catching or killing a dugong is believed to result in the perpetrator's boat or other possessions becoming irreparably damaged or destroyed. By contrast, other Indonesians who fish in Flores waters, including Bajau (so-called "sea nomads"), Buginese, and other maritime peoples, are known to hunt dugongs for their meat and oil. Killing dugongs has been prohibited in Indonesia since 1999 (Marsh, 2002), but the ban is not consistently enforced and the practice continues. Lio coastal dwellers are also familiar with dolphins. However, not only is the mammalian character of these cetaceans much less recognized, but in overall form dolphins are far more fishlike than are dugongs.

Lio describe dugongs as possessing the upper body of a human and the lower half of a fish, ending in a large fish's tail. Details vary from person to person. Some mention a humanlike face and a round humanlike skull. Although no one explicitly mentioned the behavior, when swimming in deeper water dugongs will assume a more-or-less vertical position with the head held above water, thus from a distance resembling a human swimmer. Female dugongs also maintain this position while suckling, holding the infant close to the body with the flippers (Patterson, 1936).

Occasionally Lio describe female dugongs as possessing long head hair and "beautiful" faces, two features hardly borne out by the facts. Such descriptions might simply reflect exaggeration of the basic image of dugongs as large fish with a human upper half. But another and perhaps more likely source is exogenous images, including Western mermaids and the similarly conceived "dugong princesses" (Indonesian *putri duyung*) of Java – the more so since the advent of television and other modern media. All the same, most people deny the long hair, and a number who did mention it specified the hair as growing "inside the dugong's skin" and thus as outwardly invisible, a specification consistent with the dugong's mythological origin from a human female who, like all mature Lio women, would certainly have possessed long, uncut hair. Sometimes pointing to the creature's downturned snout and the growth of whiskers in both females and males, moreover, some people compared the head to that of a water buffalo, horse, or pig. In regard to human features, however, Lio refer most often to female dugongs possessing breasts or nipples like a human female, and they further remark on the resemblance between the external genitalia of female dugongs and those of women. (Male genitalia too are sometimes compared to a human male's, though these, I was told, can be observed only when a carcass is butchered.)

Also frequently mentioned are the animal's relatively long forelimbs, designated as "arms" or "hands" (*lima*). These serve as flippers, but as Lio regularly remark, when the flesh is removed or has decomposed, the bones display five digits and look "just like" human hand bones. Lio knowledge of dugong limb bones derives mainly from peddlers

of dugong relics who display these at local markets. Lio descriptions of mammaries, female genitalia, and limb bones, it should be stressed, are empirically well founded – as of course is the large fishlike tail. And because dugongs possess lacrimal glands and emit tears whenever the head is brought above water, an equally accurate feature to which Lio frequently refer is their ability to "weep." Less accurate are the claim that dugongs possess vestigial "legs" (*a'i*) and the derivative idea that these cross over one another to form the flukes of the fishlike tail. Although also relevant to the humanlike image, less frequently mentioned are the largely hairless skin of dugongs and a reputed similarity in skin color to that of local humans.

In relation to the human–animal divide, the ambiguity of dugongs for Lio finds further expression in two other ways, one relatively abstract, the other more practical. As accords with their peculiar combination of apparently human and fishlike features, Lio employ a variety of names in referring to dugongs, including terms translating as "dugong fish," "dugong people (or dugong humans)," and – more ambiguously still – "dugong people fish." As I explain elsewhere (Forth, 2020), this remarkable variety does not contradict widely attested principles of folk taxonomy (see Berlin, 1992). Specifically, it does not betray a proposition that dugongs are simultaneously both fish and not fish (nor members of a third category distinct from both fish and humans), for Lio are quite sure that, in the present day, dugongs are ultimately a kind of fish (*ika*).

In a more practical vein, the ambiguously human character of dugongs raises the question for Lio of whether the animal should be eaten, especially in view of their pronounced aversion to the idea of cannibalism. Nevertheless, many people, and probably a majority, will eat dugong flesh when it is available, as it occasionally is in local markets. The practice even appears to be more common among Lio living on the coast than among highlanders, which might seem curious as coastal dwellers are of course more familiar with the dugong's humanlike morphology. Two men described people as eating only the fishlike lower half of the animal, but everyone else I questioned denied this. To be sure, some people claimed never to eat dugong because of the animal's human attributes. There is also an opinion that eating dugong is a recent practice, and that formerly, people were afraid to consume what they equated with human flesh. Yet there is no trace of any former taboo (*pire*) on dugong flesh (in contrast to a taboo sometimes adopted by individuals who, as I later describe, are supernaturally favored by a dugong). A comparable attitude concerns a minority of Lio – mostly women in the common opinion – who will not eat the flesh of monkeys, another local animal whose humanlike morphology and behavior are regularly mentioned by Lio and which, like the dugong, is believed to derive from humans. On the other hand, there is a view that while animals, including monkeys, do not possess souls (*mae*), a property generally treated as exclusive to human beings, dugongs are or may be the sole exception.

The Dugong Myth of Origin

While Lio describe dugongs in general as resembling humans, from the features just enumerated it is quite clear that the humanlike traits Lio mention most often are more specifically those of female humans. A myth recounting the origin of the dugong confirms this symbolic femininity by depicting the creatures as deriving from a woman. Lio variants of the myth can be summarized as follows:

> A fisherman catches a prize fish which he wants to keep for himself. After giving the fish to his wife and after leaving for the sea, his children begin weeping and crying from hunger, so their mother, having pity on them, cooks the fish and feeds it to them. On returning home and discovering what has happened, the man becomes enraged and beats the wife savagely. In some versions, he orders her to enter the sea to catch a fish to replace the one eaten by the children. In other versions, the woman is described as immersing herself in the waters of the sea to heal her wounds – and one version further mentions how she enters the sea weeping. Unable to catch a fish, the woman remains in the sea, returning to shore only occasionally to suckle her youngest child. Whenever she gives the child the breast, only the upper half of her body emerges from the sea while her lower half remains submerged. For this reason her legs eventually fuse together to form the tail of a fish, and after suckling her infant for the last time, she pulls her sarong (tubular skirt) over her head, thus giving rise to the relatively featureless head and face of the dugong. No longer able to return to the dry land, the woman thus remains in the sea and becomes forever a creature of the sea, a dugong.

Similar accounts of dugong origins are found outside Flores, including the neighboring island of Sumba (Forth, 1988) and, much further afield, among the Moken people of the Mergui archipelago, who trace the dugong's origin to a disobedient daughter "pulled into the sea by spirits" (Bernatzik, 1944/1958, p. 41). The Sumbanese myth is particularly interesting, as it effectively combines the origin of dugongs from a human mother with another equally widespread Indonesian tradition, whereby monkeys, also, derive from humans. Specifically, in the Sumbanese version monkeys derive from two children (a male and a female) whose mother later transforms into a dugong. A comparable myth found among an aboriginal group in the Malay Peninsula also combines a primordial transformation of humans into a dugong and a nonhuman primate (specifically, the White-handed gibbon, *Hylobates lar*), although here it is a dejected husband rather than an abused wife who turns into a dugong and his wife who becomes the gibbon (Karim, 1981, p. 223). In Lio, monkeys (all Long-tailed macaques, *Macaca fascicularis*) and dugongs are the only two attested animals associated with a myth recounting their originally human status, a connection to which I return below.

As both the Lio and Sumbanese myths reveal, the original dugong was not just a woman but a mother, who before her complete transformation was impelled to return several times to the shore to breastfeed her unweaned infant. This detail matches the behavior of female dugongs, who after giving birth, usually to a single calf, suckle the infant for up to 18 and possibly 24 months (Marsh et al., 2012, p. 221, 233). And it further recalls the behavior of infant dugongs, who remain in almost constant contact with their mothers until they are mature. Clearly reflecting this behavior, several Lio sightings, reported from observations made over several decades, concerned female dugongs with calves. Two described infants searching for or remaining close to and "weeping" over the carcass of a dead female, while another mentioned how a mother dugong had pathetically attempted to retrieve a captured infant.

Dugongs as Supernaturals

If dugongs combine physical features natural to humans and animals (specifically fish), in the Lio conception they additionally incorporate a decidedly supernatural character. One context in which Lio depict dugongs as supernatural beings concerns how people might

obtain dugong tears, a substance believed to render other people well-disposed towards a person, thereby ensuring success in trade, and making men attractive to women. While dugong tears are regarded as love potions throughout Southeast Asia, and also in China (Andaya, 2019; Barnes, 1996; Ellen, 2003), Lio further speak of the tears, like other things taken from dugong bodies, as providing possessors with protection. At the same time, Lio describe dugong oil, bone, and hide as possible substitutes for dugong tears in all these respects.

Sometimes Lio speak as though tears can simply be obtained from a live animal by collecting them in a container or soaking them up in a cotton wad. But according to more informed accounts, for the tears to be truly efficacious, or to ensure their "supernatural power" (Indonesian *daya gaib*), the dugong must approach a person and surrender its tears voluntarily. Regardless of how one obtains the tears, the animal must not subsequently be harmed, and certainly not killed, for then the potency of the tears will disappear completely. Some evidence suggests tears extracted from a dead animal can be made efficacious by way of a rite, but not tears from an animal killed deliberately. According to one account, fully efficacious tears can be obtained only if a man goes to sea alone – women are never described as obtaining dugong tears – and if he hears a dugong making the humanlike sound Lio interpret as "coughing," the creature may then come directly to his vessel, lay its head across the bow, and begin weeping.

According to yet another report, a man may encounter a dugong only by swimming in the sea, alone and naked. If he is lucky, this might attract a dugong, whose head he should then strike to cause the animal to weep. After collecting the tears, on the following night the man should have a dream, in which either a fully mature or young woman, depending on the age of the dugong, will appear and inform him of the specific powers of the tears. The figure in the dream may also specify prohibitions the man must observe to ensure that the tears retain their efficacy. For example, he might be told he must never again urinate or defecate in the sea, or that he should not do so while carrying the tears on his person, typically in a small bottle. Alternatively, the figure might tell him that he should never thereafter eat dugong flesh.

By all indications the woman who appears in the dream is the dugong, or an anthropomorphous spirit entity closely identified with the dugong. A comparable representation concerns encounters with other animals, most often snakes, which Lio interpret as manifestations of either forest spirits (*nitu*) or ancestors wishing to bestow special powers on favored individuals. The spirits then appear in human form, in a subsequent dream. The foregoing description of how dugong tears may be obtained assumes that the animal will be female, and in fact, when questioned, some Lio thought that tears (or fully efficacious tears) could only be obtained from females. The following account makes this even more explicit.

According to a man in his sixties, a favored individual might also have a dream before encountering a dugong, indicating a location where the animal "will come to (the person)." Once this happened to his grandfather. Sometime in the 1930s, the grandfather was walking along the shore, on his way to pay taxes to the colonial raja, when he came across a large female dugong, seemingly stranded, resting its head on a large stone near the shoreline, beating its tail against the water, and coughing. As the creature was weeping, he took coins from his store of tax money, placed it on the creature's back, and said to it "well, if we are to become two, I will pay." The man then collected a quantity

of the dugong's tears and thereafter pushed the creature away from the rock so it could swim back out to sea. In a preceding dream, a woman had appeared to the grandfather inviting him to meet her at the very spot where he had encountered the dugong. As the informant later explained, the money placed on the dugong's back was comparable to a sum a man might give to a woman in exchange for sexual favors.[1] Although the man did not describe his grandfather as actually having sex with the creature, this account is the closest I have come to such a claim. Men having sex with female dugongs, it is worth noting, has been reported for other parts of the world since the sixteenth century (Jacobs, 1971, p. 67, 331). As part of traditional ritual accompanying a dugong hunt, men of western Madagascar, for example, had to copulate with any female specimen they might kill (Petit, 1927, p. 248). Confirming what I had heard from others about obtaining dugong tears by swimming naked in the sea, my informant spontaneously asserted that the swimmer's nakedness is sexually attractive to female dugongs and so will quickly draw one to him. He added that the swimmer should then engage in sexual play, for example by fondling the creature's breasts, so that, thus feeling embarrassed or ashamed, the dugong will consequently begin to weep. The same man, however, also asserted that, when collecting the tears, the beneficiary might address the dugong (again, implicitly female) as "mother" and request "her" to surrender the tears and thus help him.

While relating his grandfather's reputed experience, the informant further recounted what had been implicit in other accounts, namely, that truly efficacious dugong tears can only be acquired by way of what Lio call *saka sera* or *saka raju*. These phrases refer to experiences of people who, in connection with a preceding or subsequent dream, obtain extraordinary powers from forest spirits (*nitu*) that manifest themselves in the waking state, usually in the form of snakes. Powers thus obtained from such spirits are usually acquired by way of a small stone or similar object, which the beneficiary finds or is directed to in the dream. Dugongs, it should be noted, are not usually identified with forest spirits – not surprisingly, as these spirits are typically associated with uninhabited places on dry land. Nevertheless, it should be clear how the sea creatures are conceived as maintaining a supernatural existence quite comparable to these spirits.

Although procedures entailed in obtaining fully efficacious dugong tears (such as swimming naked in the sea) reveal a definite sexual element, in a more general view they can be understood as a means by which humans put themselves on a level with the sea mammals. One fisherman thus related how, in his experience, the appearance of a dugong in a dream always presages a successful catch. However, there is also the idea that a fisherman who hears the "coughing" of a dugong will be assured of a bountiful catch only if he displays no fear (revealed, for example, by his body hair standing on end). As I was told, people unfamiliar with this coughing as a sound made by dugongs are likely to think it comes from a malevolent sea spirit and will therefore show alarm. Thus, not showing fear appears to express a more general familiarity, even a sort of essential equivalence or identity with the creatures bound up with their human origin. In the same vein, Lio speak of simply sighting a dugong as an auspicious sign and, moreover, as something that happens only by "chance" (Indonesian *kebetulan*, *mujur*; Lio *ngene gudu*). As they further explain, if one deliberately looks for a dugong one will never find one, as encounters occur only when the animal wishes to reveal itself.

Similarly attesting to the dugong's spiritual side, the implicitly sexual nature of encounters between human males and dugongs further recalls Lio representations of people who meet spirits called "vine mothers" (*ine léke*). Most often encountered by men, these assume the guise of beautiful women. At the same time, and despite the name, Lio also say women can be approached by a vine mother in the form of a human male. Alternatively, vine mothers can assume the form of a known person of opposite sex. Either way, if a human has sex with such a spirit, he or she will shortly die, as will a man who receives food from a vine mother assuming the guise of his wife.

Some association with vine mothers is also suggested by a report concerning a buried dugong carcass that, reputedly, had mysteriously disappeared from the ground. This was suspected to have been taken by spirits called *poni*, a term normally considered another name for vine mothers (*ine léke*). Belonging to a specimen that had been washed ashore, the carcass was buried with the sole intention of later disinterring it and retrieving the magically valuable bones. It might therefore seem likely that it had been dug up by people other than the buriers, but my informants denied this. Of course, whereas an implicitly sexual encounter with a dugong confers positive benefits on a person, sexual intercourse with a vine mother is entirely negative. Nevertheless, a negative side of human–dugong relations is revealed in the notion that the Sirenians can lure young children away from their parents. One man thus recounted how, as a youngster, he and several companions were swimming in the sea when there appeared a number of dugongs that they were able to approach closely and embrace. Watching this from the shore, the grandmother of one boy admonished them not to do this, exclaiming that otherwise "mother (or 'the mothers') will lure you out to sea." Although the sex of these dugongs was unclear, in this instance too, they were thus depicted as female, and in addition to the reported speech of the old woman, the informant also referred to them as "mother(s)."

In a similar vein, Lio say human mothers should sing or murmur to crying infants so they will not be heard by "mother in the sea," for if dugongs hear the crying they might come to shore and attempt to ascend to the dry land. As one commentator added, they cannot actually come onto the land because they no longer have legs. Still, the representation reveals the same attractiveness of young children to dugongs as does the notion that the animals can lead youngsters away to the sea. Both immediately recall the origin myth, where dugongs derive from a human mother cruelly separated from her children by virtue of the loss of her lower limbs, which become transformed into the tail of a fish, and thus her necessary assumption of an entirely aquatic existence. And the idea of dugongs enticing humans seaward might further call to mind the ancient Greek representation of beautiful female sirens (after which dugongs and manatees are scientifically named) – usually depicted as half human and half bird but nonetheless often confused with "mermaids" – luring mariners to their deaths on rocky shores.

Two other accounts linking dugongs with spirits, and in one case with beings comparable to the sirens of antiquity, are equally noteworthy. One man related how his brother had once killed an immature dugong being suckled by its mother. Apparently in a dream (though this was not actually specified), the mother subsequently appeared before the killer naked, in the form of an extremely prepossessing woman with long straight hair reaching to the ground. In a way redolent of men fatally attracted by beautiful female

spirits named "vine mothers," the man then followed the woman into the sea. As the narrator explained, the mother dugong had "transformed" (*mbale*) into the woman in order to take the life of the brother, who later dropped dead in his boat while fishing at sea. While *mbale*, "to transform, change (into)," also applies to the human mother's permanent metamorphosis into a dugong in the origin myth, temporary transformation, or shape-shifting, is a power categorically attributed to all kinds of spiritual beings, including forest spirits that appear in the guise of snakes and vine mothers who assume human form. Apparently referring to dugongs encountered in dreams, a regular informant further described dugongs as being able to change form at will – appearing, for example, "as a young woman, then changing into an old woman, and later into an old man." Also, while advancing a view that there were two kinds of dugongs, one more humanlike and one more fishlike, another man explained this dualism by suggesting that "dugongs can transform into fish (*ika*)," the folk zoological category that subsumes dugongs. Whereas the origin myth depicts dugongs deriving from a human in a once and for all transformation, therefore, the animals are apparently conceived as retaining a human form (a shape still partly evident beneath the dugong's skin) and thus in some contexts as temporarily resuming this form before turning back into a creature of the sea.

Dugong Magic

Although linked with a conception of dugongs as anthropomorphous spiritual beings, dugong relics (that is, beneficial body parts including the tears) operate in a straightforwardly magical manner. At the same time, Lio rationalize the powers of these objects with reference to the physical resemblance of dugongs to humans, and especially human females – that is, ultimately empirical factors that also inform the origin myth.

Like dugong tears, pieces of dugong bone (most often pieces of rib) and dugong skin carried on the person lend protection from human or spiritual dangers because, as I was told, "mothers always look after their children." As well as bone, dugong tusks are fashioned into finger rings affording wearers the same protection, while tusks carved into cigarette holders are said to render tobacco mild. Another specific protection afforded by dugong tusks and bone is revealed in the belief that rings made from these materials function as a poison antidote. If anyone wearing such a ring is given poison to drink, the vessel will break. Also, a wearer will not be bitten by a snake or attacked by another dangerous animal.

Scrapings of dugong bone, dried skin, or flesh mixed in water or food, or hot water in which a bone has been immersed, are taken to cure diarrhea or other stomach complaints, and to relieve fever and scorpion bites. Although these infusions are also administered to treat adults, Lio commonly mention ailing children in this context, a specification that recalls the dugong's maternal image. One man thus related how, whenever he was ill as a child, his mother would give him a small piece of dried dugong flesh to chew on. At the same time, dugong relics can also be used to treat livestock. For example, an infusion of skin scrapings administered to pigs cures an illness that causes swelling in the animals**.** Rubbed on human skin, dugong oil restores the body, making a person feel healthy and refreshed, relieves skin conditions, and keeps away bothersome insects. And like bone and skin, the oil is further used in the treatment of belly sickness.

Other uses of dugong bone, skin, or oil appear to reflect less an identification of the dugong with a human mother and more an association of the animals with humans in general. For example, pieces of dugong bone buried in a cultivated field, or burned inside a field, will protect crops from invasive animals, supposedly because the animals will mistake the bones for a human presence. Alternatively, crop pests can be countered by mixing bone scrapings or dugong oil with the seed of rice or other cereals prior to planting, while sprinkling water containing scrapings of dugong hide in rice fields is claimed specifically to ward off paddy bugs (*Leptocorisa acuta*). Buried on land that has yet to be cleared for cultivation, and is therefore considered to be still inhabited by spirits (*nitu*), dugong bone is also believed to cause the spirits to flee. Although driving out pestilential species is mentioned most often, a few people described these uses of dugong bone as additionally promoting the fertility of the crop and ensuring plants do not wither and perish. As one woman explained, by virtue of the bone the yield will still be abundant even when crops are stolen by human thieves. And one man attributed the way dugong bone benefits crops to the fact that "mothers [identified with the dugong] care for and promote the health of their children."

Dugong bone, hide, or dried flesh kept in dwellings is similarly believed to repel fire, and dugong oil is considered effective in treating burns. Lio rationalize both usages by reference to the fact that dugongs, in this and other contexts sometimes described as "people of the sea," live exclusively in water, so that "fire cannot burn them." Another fire repellant is "dugong thread," apparently the periosteum, the fibrous membrane that covers the bones. Yet another is pieces of dried dugong flesh, which when placed at the edge of a cultivated field prevent wildfires from damaging the plot.

Although two fishermen reported using dugong products at sea to ensure success (in one instance by stitching tiny bits of bone to nets), in a more common view the animal's body parts are efficacious only on dry land. In the same vein, it is taboo to bring containers of dugong tears into contact with seawater, as they would then lose their efficacy – something said also to occur, at least temporarily, when tears are brought close to a human corpse. One man suggested that taking tears to sea counters their efficacy because the sea is now the dugong's natural habitat, and the act would therefore involve returning them to the place whence they came – thereby implying an illegitimate reversal. Yet the taboo seems equally consistent with the belief that dugongs originated on dry land, and more specifically with the connection Lio explicitly make between magical properties of dugong tears, bone, skin, and the like and the animal's mythical derivation from a human female.

Claimed by one seller to be obtained solely from carcasses found dead in fisherman's nets, most people purchase dugong relics from local markets, where they command relatively high prices – for example, in 2015 the equivalent of five US dollars for a short length of dugong bone. Lio regard relics of other animals as magically powerful as well. For example, snakes, fish, and various mammals yield objects generically described as "stones," which can be used as medicines and are believed to confer protection and other supernatural benefits, including success in hunting. With porcupines and other mammals such stones mostly comprise hard lumps of undigested material found in the gastrointestinal tract of hunted animals. But whereas supernatural potency inheres in the bones, teeth, skin, and oil of all dugongs, a point also partially applicable to dugong tears, Lio represent relics provided by other creatures as properties of individual

animals. Thus snake stones can be obtained only from specimens considered temporary embodiments of forest spirits.

Monkeys, the other animal Lio regard as deriving from humans, are slightly different, for it is claimed that any monkey skeleton will contain one unspecified bone, identified by testing all the bones in turn, which renders the possessor invisible. Nevertheless, in both variety and quality dugongs provide far more relics than does any other animal, thus further attesting to the special spiritual status of this creature in local cosmology. Interestingly, though, the creature most closely resembling dugongs in this respect is not an attested animal, but a cryptid. This is a creature described as a small-bodied hominoid (Forth, 2008) whose teeth and bones, but more often its urine, are claimed to confer special benefits, including protection and powers of invulnerability, in a way especially reminiscent of dugong tears.

Conclusions

Not only do dugongs ambiguously combine features of humans and animals (specifically, "fish"), they also combine qualities of natural beings (humans and animals) and spirits, entities that have no clear basis in empirical creatures or in folk physics. Anthropology has made much of the way animals that are peripheral, liminal, anomalous, or ambiguous in relation to some scheme of classification may be deemed supernaturally powerful, usually in a negative way. Yet not all animals considered ambiguous – for example, ones combining physical or behavioral traits of contrasting life-forms – possess supernatural qualities. Conversely others that are not so regarded can possess quite definite spiritual associations, one of the best examples, in many societies, being snakes (see Mundkur, 1983).

This is not to say that egregiously ambiguous aspects of dugong bodies are not relevant to their representation as animals part natural and part supernatural. But they are insufficient. As mammals and more specifically humanlike mammals that live exclusively in the sea, dugongs are not simply "creatures out of place." Rather, their existence challenges what for Lio is a major cosmological opposition, namely that of land and sea. More specifically, Lio describe dugongs as animals that in many respects look like land creatures, indeed human beings, and yet live exclusively in the sea. And there is more. Dugongs are large animals, but they are also rare. The importance of rarity is shown by contrasting attitudes Lio hold towards monkeys, that other uncannily humanlike and reputedly human-descended animal recognized by Lio. Although unspecified monkey bones are magically powerful, monkeys do not possess anything like the spiritual profile of dugongs, and certainly not the positive relation to humans of dugongs. Their mostly negative image is readily ascribed not only to the status of monkeys as a major crop pest (one, moreover, that is supposedly counteracted by dugong relics), but also to the fact that monkeys, exclusively land-dwelling animals like humans, are extremely numerous and are encountered all too often.

Dugong rarity is obviously crucial to the belief that the appearance of a dugong, at any time and in any circumstance, is auspicious, as well as the related idea that not just anyone can "see" (Lio *tei*, also "encounter, find, meet with") a dugong. By the same token, seeing a dugong reflects a special quality of the person so favored. Hardly exclusive to the Lio, this conception of rarity is widespread among non-Westerners, and in view of

the European concept of "luck" as a quality some people possess more than others, apparently has an even more general incidence. In any case, it clearly contrasts with a purely probabilistic (and scientific) understanding of rarity as a factual aspect of anything seldom encountered.

In the non-Western understanding, "rarity" is furthermore linked closely with crypticity. A cryptid is, by definition, a creature that is "hidden." Yet equally obviously, cryptid animals cannot be completely hidden. Unless one is to assume consistent fabrication or hoaxing, some people have to see them, however infrequently, otherwise their existence could not be known at all. In other words, cryptids, whatever their other characteristics or their status among scientific zoologists, are always rare – at least in a global context. And in the same way, the supernatural character locally ascribed to cryptic animals, commonly derogated as "mythical" beasts, rests largely on the fact that spiritual beings are entities that are not invariably available to perception and, if visible at all, can only be seen by certain special individuals.

Significantly, two other creatures Lio and other Flores Islanders describe as extremely rare and explicitly recognize as contravening the cosmological opposition of land and sea, are similarly conceived as supernaturally powerful, though in both instances in mostly negative ways. One is a giant land crab that eastern Lio name *kepi*, whose physical description corresponds in all respects to the very large and almost entirely land-dwelling Coconut crab (*Birgus latro*), the world's largest terrestrial arthropod (Forth, 2019). As Lio remark, resembling large marine crabs these *kepi* should by rights live only in the sea. Yet, ominously, they are always encountered on dry land and at considerable distances from the sea. Combining the same qualities, the other creature is a similarly rare freshwater turtle (probably *Cuora amboinensis*) that is now possibly extinct on Flores (Forth, 2017, 2018) and whose habitat and behavior, as Lio regularly remark, contrast to those of very familiar – one can also say "normal" – sea turtles. Lio describe both the crabs and the turtles as possessions or manifestations of forest spirits (*nitu*) and therefore as supernaturally dangerous to anyone who should come across one, and more certainly anyone who harms or kills one. As noted, Lio do not explicitly link dugongs with *nitu* spirits. Yet it is quite clear that, in one part of their being, they are identical to these spirits, although on the whole more benign.

Interestingly, another creature that is both rare and by virtually any standard extraordinary is the Komodo dragon (*Varanus komodoensis*), a giant monitor lizard attaining a length of up to three meters that occurs both on Flores and smaller neighboring islands to the west. One might expect to find such a remarkable creature locally regarded as spiritually as well as physically powerful. However, especially in north central and northeastern Flores, including Lio territory, where the lizards are rarer than elsewhere on the island, local people ascribe few if any supernatural qualities to these remarkable animals. In accordance with the interpretation advanced in regard to dugongs, Coconut crabs, and freshwater turtles, the reason evidently lies in physical and ecological features of the giant monitors. More specifically, it can be found in the fact that, as creatures morphologically and behaviorally similar to and contiguous with both smaller Water monitors (*Varanus salvator*) and marine and riverine crocodiles (*Crocodylus porosus*), the largely terrestrial and coastal dwelling Komodo dragons are neither classificatory anomalies nor do they in any way contravene the cosmological opposition of land and sea.

In the context of Lio cosmology, dugongs can be considered cryptids, being very occasionally observed yet not easily accommodated to their folk zoology – or being accommodated only to the extent that they are partly represented as supernatural beings. This solution is of course not acceptable either to scientific zoologists or to the majority of Western cryptozoologists, neither of whom have any room for supernaturals nor for anything not strictly empirical. Giant land crabs and freshwater turtles can be understood in the same way. Yet both the crabs and the turtles further count as cryptids in the more conventional (or Western) sense. For while both have been scientifically documented and observed in other parts of Indonesia, professional zoologists have yet to obtain specimens of either from Flores Island. Historically, the same applied to Komodo dragons, first documented in northwestern Flores over a century ago, and whose occurrence in central and eastern parts of the island was known to local people well before professional zoologists "discovered" populations there in the nineteen-eighties (Forth, 2010, p. 299). But the dragons aside, similarities between local representations of empirical dugongs and the very probably empirical turtles and crabs, are striking. In an anthropological view, therefore, they are all of a piece, and as rare and thus largely "hidden" animals, all can equally be treated as objects of "cryptozoological" knowledge.

I close with a point introduced earlier. If dugongs were not recognized by international science – a premise not entirely unreasonable in view of the large number of animal species that were unknown to Western zoology before the twentieth and twenty-first centuries – Florenese accounts of dugongs would almost certainly be taken by Westerners as references to imaginary or "mythical" creatures, and the animals would therefore be interpreted as cryptids in the more usual acceptation. In this connection it is worth pondering how I know that any of the various Lio names for dugongs (*ruju*, *ata ruju*, *ika ruju*, or *ika ata ruju*) refers to the species *Dugong dugon*. The way Lio described the creature corresponds to what I have learned from reading about and seeing pictures of dugongs. However, I have never seen either a live dugong or a carcass. Certainly, if I knew nothing about dugongs – as I suspect most Westerners do not – from local descriptions I would probably understand the name as referring to a "mythical" creature.[2] And if I had only heard about mermaids, this interpretation would seem to be confirmed.

The image of mermaids pre-existed documentation of the Sirenia in the eighteenth century (Andaya, 2019). Yet mermaids can be counted as "cryptids" only if regarded as animals distinct from dugongs and corresponding to a scientifically undiscovered species. Instructive in this regard is anthropologist Roy Wagner's brief excursion into cryptozoology. Wagner (1982; Wagner et al., 1983) initially identified a creature reported by the Barok of New Ireland that combined features of a human and a fish, and which Barok distinguished and named separately from dugongs, respectively as *ri* and *bo narasi* ("pig of the sea," denoting *Dugong dugon*). The cryptic quality of these New Guinean mermaids, however, seemingly evaporated when Wagner was ultimately able to determine that *ri*, also, were dugongs – although the problem of the apparently dualistic character of their local representation remains. Actually, Wagner might have suspected as much had he been aware (as evidently he was not) that *ri*, the name of the initially mysterious creature, is a cognate of words for "dugong" in other New Guinean languages as well as Central-Malayo-Polynesian languages of eastern Indonesia (see Aru Islands *ri*, *riu*, *ru*; eastern Sumbanese *ringu*; cf. Lio *ruju*).

Dugongs themselves have never been "cryptids" in a Western (or scientific) conception, because in Western cryptozoology this status requires an absence of scientific acceptability, and dugongs have been known since the early days of modern biology. For Flores Islanders, of course, this contrast does not exist, even though skepticism over claims made about some local animals certainly does. Either way, an expanded, cross-cultural view of cryptozoology, encompassing animals that are experienced as rare and can challenge not just the way people classify things but the fundamental principles on which that classification is founded, facilitates a comprehensive understanding of what people make of "hidden" creatures, including their common representation as supernatural or spiritual beings. As should be clear, this applies specifically to creatures that both folk and international zoologists would agree exist physically and so are perceptible even if they are hardly ever seen. At the same time, the present case has another relevance for a more conventional cryptozoology. For the way Lio people conceive of dugongs as partly supernatural creatures reveals how current cryptids, readily dismissed by many Westerners as insubstantial and "mythical" – or entirely supernatural – may eventually turn out to be actual animals that, despite seemingly unlikely attributes, are less mythical than was previously supposed.

Notes

1. This use of money may be idiosyncratic. In another account a man was described as magically killing an immature dugong by "showing it money." The claim apparently reflects the Lio prohibition of taking money to sea or carrying it while fishing in rivers, as in both instances money "obstructs the fish."
2. Arndt's 555-page Lio-German dictionary (1933, p. 151, s.v. *ika*) was of little help, since this lists *ruju*, transcribed *rudzu*, only as an unspecified type of fish. Arndt also gives *rudzu* separately but glosses this only as a personal name.

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